

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 23-47 and 50-53 are pending in the present application, Claims 23, 29, 31, and 50-53 having been amended, and Claims 48 and 49 having been canceled without prejudice or disclaimer. Support for the present amendment is found, for example, at page 7, lines 16, 25-26, and 29-30, and page 8, lines 4-5 of the specification. Applicants respectfully submit that no new matter is added.

In the outstanding Office Action, Claims 23-38 and 45-53 were rejected under 35 U.S.C. §103(a) as unpatentable over Wohlstadter et al. (U.S. Patent No. 6,673,533, hereinafter Wohlstadter) in view of Lee et al. (U.S. Patent Publication No. 2004/0038307, hereinafter Lee); Claims 39-42 and 44 were rejected under 35 U.S.C. §103(a) as unpatentable over Wohlstadter in view of Lee, and further in view of Chee et al. (U.S. Patent No. 7,226,734, hereinafter Chee); and Claim 43 was rejected under 35 U.S.C. §103(a) as unpatentable over Wohlstadter in view of Lee, and further in view of Pohl (U.S. Patent No. 5,461,600).

With respect to the rejection of Claim 23 based on Wohlstadter and Lee, Applicants respectfully submit that the amendment to Claim 23 overcomes this ground of rejection.

Amended Claim 1 recites,

metallic, cylindrical pads distributed on the surface of a support, the pads having a thickness between 10 nm and 500 nm and configured to immobilize the chemical or biological species, and the pads having a dimension, other than the thickness, that is less than 1 μ m.

Wohlstadter and Lee, when taken in proper combination, do not disclose or suggest every element of amended Claim 23.

Page 2 of the Office Action states “**Wohlstadter fails to disclose** pads...having a dimension less than 1 μm ” (emphasis in original). Thus, Wohlstadter also does not disclose the claimed “the pads having a thickness between 10 nm and 500 nm.”

The outstanding Office Action refers to paragraph [0192] of Lee. The discussion in paragraph [0192] of Lee refers to a biosensor that includes volume surface-relief volume diffractive structure (i.e., SRVD biosensors).¹ Lee does not describe a device based on a surface plasmon technique. Rather, the device described in Lee is based on diffraction with stepped pyramid structures.² Such stepped pyramid structures are obtained by embossing a plastic substrate, for example a vinyl substrate. Lee states “the nickel ‘master’ plate is then used to emboss directly into a plastic film, such as vinyl, that has been softened by heating or solvent.”³ Such pyramidal protrusions are unsuitable for a surface plasmon microsensor or nanosensor.

The pyramidal protrusions of Lee do not equate to the claimed cylindrical pads that have “a thickness between 10 nm and 500 nm.”

Applicant also traverses the obviousness rejection based on Wohlstadter and Lee because there is no apparent reason to modify the Wohlstadter device by incorporating pyramidal protrusions of Lee.⁴

Page 3 of the outstanding Office Action states that it would be obvious to “include the configuration of the pads of Lee in the sensor system of Wohlstadter in order to produce more pads on a smaller surface, increasing the amount of particles able to be detected on the substrate surface.” No evidence is provided to support this position. The Lee court specifically found it to be erroneous and arbitrary conduct for the PTO to attempt to resolve questions material to patentability by reliance upon “subjective belief and unknown authority”

¹ Lee, paragraph [0190].

² Lee, paragraph [0192].

³ Lee, paragraph [0192].

⁴ See *Ex Parte Smith*, at page 14 (citing *KSR*, 127 S.Ct. at 1740-41, 82 USPQ2d at 1396.).

(see In re Lee at 61 USPQ2d 1434) as is being done here. Also note the Kotzab court admonition (at 55 USPQ2d 1317) that "[b]road conclusory statements are not evidence." As stated above, the pyramidal protrusions of Lee are not suitable for a surface plasmon microsensor or nanosensor. The Office Action provides no evidence to the contrary.

Further, one of ordinary skill in that art would not find it obvious to pick and choose the pyramidal protrusions disclosed by Lee in order to use it instead of the PMAMS of Wohlstadter.⁵ Since the device of Lee and the device of Wohlstadter are different, a person of ordinary skill in the art would not use the pyramidal protrusions of Lee in the device of Wohlstadter, and would not redesign the device of Wohlstadter based on dimensions in Lee. Thus, there is no rationale for such a modification, absent improper hindsight based on the present claims.

While Lee may provide a reason for using pyramidal protrusions in a SRVD biosensor, Lee fails to explain why a person of ordinary skill in the art would find it obvious to incorporate such a feature in the device of Wohlstadter. Lee does not provide any evidence that the pyramidal protrusions would work in the device of Wohlstadter. Wohlstadter does not provide any evidence that further improvement is desired, nor that another feature should be added to further improve the PMAMS.

Thus, Applicants respectfully submit that a person of ordinary skill in the art could not properly combine Wohlstadter and Lee to arrive at the invention defined by Claim 23.

In view of the above-noted distinctions, Applicants respectfully submit that Claim 23 (and any claims dependent thereon) patentably distinguish over Wohlstadter and Lee, when taken in proper combination.

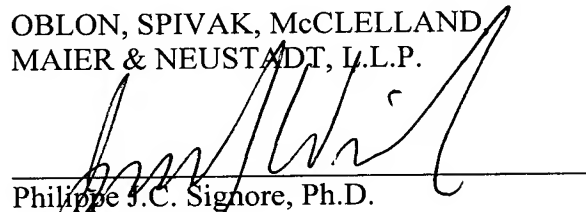
⁵ See In re Ehrreich 590 F2d 902, 200 USPQ 504 (CCPA, 1979) (stating that patentability must be addressed "in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of first one and then another of the isolated teachings in the art," and that one "must consider the entirety of the disclosure made by the references, and avoid combining them indiscriminately.")

Addressing each of the further rejections, each of the further rejections is also traversed by the present response as no teachings in any of the further cited references to Chee and Pohl can overcome the above-noted deficiencies of Wohlstadter and Lee. Accordingly, it is respectfully requested that those rejections be withdrawn for similar reasons as discussed above.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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